Applicant: Anke Althoff et al Attorney's Docket No.: 14219-074US1 / P2002,0642USN

Serial No.: 10/523,345 Filed : October 11, 2005

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## AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

## LISTING OF CLAIMS:

1. (Currently Amended) A method of producing a ceramic substrate comprised of a base that comprises a stack of layers, each layer in the stack comprising a non-sintered ceramic material and a binder, the method comprising:

debinding the layers in a temperature interval of  $T_{E1}$  -  $T_{E3}$ , where  $T_{E1}$  is a minimum debinding temperature and  $T_{E3} > T_{E1}$ ; and

sintering the layers at a temperature  $T_S$ , where  $T_S \ge T_{E3}$ ;

wherein debinding and sintering are performed in a same furnace; and

wherein a temperature T of the base does not fall below T<sub>El</sub> during debinding and sintering;

wherein at least two of the layers comprise different ceramic materials; and wherein a first layer of the stack comprises a first ceramic material, and a second layer of the stack comprises a second ceramic material having a relative permittivity which is at least two

times as high as a relative permittivity of the first ceramic material;

wherein, following sintering, the first ceramic material has a relative permittivity  $\varepsilon_1$ , where  $7 \le \varepsilon_1 \le 8.5$ ; and

wherein, following sintering, the second ceramic material has a relative permittivity ε<sub>2</sub>, where  $18 \le \varepsilon_2 \le 22$ .

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2. (Previously presented) The method of claim 1, further comprising:

forming the stack of layers;

wherein forming comprises forming openings in the layers and adding a metalliferous paste to at least some of the openings.

- 3. (Previously presented) The method of claim 2, wherein the metalliferous paste comprises silver or silver-palladium.
  - 4. (Cancelled)
- 5. (Previously Presented) The method of claim 2, wherein the second layer is disposed above the first layer;

wherein the first ceramic material begins to sinter at a temperature  $T_{S1}$ , the second ceramic material begins to sinter at a temperature  $T_{S3}$ , and the metalliferous paste begins to sinter at a temperature  $T_{S2}$ ; and

wherein  $T_{S1} < T_{S2} < T_{S3}$ .

6. (Canceled)

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7. (Previously presented) The method of claim 2, wherein forming comprises providing structured metallization layers between layers in the stack comprised of sintered ceramic material, the structured metallization layers comprising the metalliferous paste.

8. (Previously presented) The method of claim 5, further comprising forming a stratified compound using the first layer and the second layer, the ceramic substrate comprising plural stratified compounds; and

wherein forming structured metallization layers between the stratified compounds.

- 9. (Previously presented) The method of claim 1, wherein debinding and sintering are performed in an inert atmosphere.
- 10. (Previously presented) The method of claim 1, wherein debinding an sintering are performed in an air atmosphere.
- 11. (Previously presented) The method of claim 1, wherein, during debinding, an atmosphere in which debinding takes place changes from an inert atmosphere to an air atmosphere.
- 12. (Previously presented) The method of claim 11, wherein debinding begins at a temperature between  $T_{E1}$   $T_{E2}$  and the temperature increases at a montonically increasing rate,

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where  $T_{E1} < T_{E2} < T_{E3}$ ; whereafter T decreases to a value of  $T_{E1'}$ , where  $T_{E1} \le T_{E1'} < T_{E2}$ ; whereafter T increases at a monotonically increasing rate to a value  $T_{E3}$ .

13. (Previously presented) The method of claim 12, wherein a first part of debinding is performed in an atmosphere that is inert; and

wherein, during debinding, the atmosphere in the furnace changes to an air atmosphere in accordance with a reduction in temperature to a value of  $T_{E1} \le T_{E1}$ ,  $< T_{E2}$ .